Herter paper - BOTANICAL

Sanden, 3326.

From Whom ... 8. of 50.

Place ... 1.

Date ... 21/4/2 2

SUBJECT.

B.S. 487

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Connected Papers.

MINUTES.

h.s.

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M. E. E. 7. Prels

26-4-22

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To wate offerwal M. E. E. J. Anely

27-4.22

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28/4/22

F33/2

No Minutes should be written on this page. A separate half-sheet to be used if required.

Fair Copy signed by

Mant collins 1 Som

Tocs

Than the Lower L'inform you that with your Capproval I propose & second he hustained Harriff, Freld assistant mont upon his annual allecting hip, and have like for their Year enk Stepen of Janan, When the promise of part por failitie for fitting about Exist her H. CHA Robinson of the Museum, Kuala Lunghun har promised his anistance. 2. A will be hermany

that he be accompanied La plant collector, from Sinjapore. 3. In sanction is anderd again the Fravelling Mourance Mestamadent postell Assignation of when his annie wellecten in and have wileshir for their George and Elyper of humany

From Whom			4	
Place		,		100
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SUBJECT:

Requesto permission to viril Frenggam & collect botameal Inaterial N.S. 300

Connected Papers.

MINUTES.

1. Letter & CS. forwarded 16/4/15

No Minutes should be written on this page. A separate half-sheet to be used if required.

Fair Copy signed by

20/5/25

To

(].

SIR. in 88/1924 to my letter of April 15th LI have the Lower 16 report my return this day for Whole Trengsame. I have left helines to de was after to make 2. Limade various santsvins Hungh te regini around Knale negsan, ende mispeeting the plants in altivation, laking specimens where necessary, and allecting also herbarium specines of the native flora. We have hitherts the testion herbring from the Coastal regini Menggann. Li addition I secured specimens of 3. Intants used medicinally.

Pulau Kapas, and there obtained luis specimens of various orchids, and off hertarium material. Et 4. By the courting of the Com issiner aflands I was able

lo regles travel to days up the Trenggance river; Menorse

my time was spent in the miredate reighborhood

F22/5

5. I have left hohanes hamp, the Trets Ass!: for leage, and a plent while for the water on the west bout. is printle; they will return on the vert bout. He With

COPY FOR Def Gardens

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30000/1024

anologues l.

HT

B

Garden.

Sir.

A Mar more than 25 refers

I am director to formed herewith copy

of a latter dated the lith April, 1985, from Mr. Helttum, Acting Director of Cardens, struits Settlements, and to request that he may be given any accistence he may reunive in the collection of betanical material.

I have the honour to be.

Sir.

Tour chedient posyunt.

(Signed) W BARTIST

/Colonial Scarenary,
Joseph Bettlemonia.

The British Advisor,

ROTALLE GAMDENS, SINGAPORA, MINITES SEPTEMBERS. 15th April, 1925.

No.300/26.

PROPOSES A VISIT TO E-TREMCHANU TO COLLECT PARTICAL MATERIAL»

design allowing a principal materials and a substitution of the state of the state

MIT?

During last year Mr. Burill spent a good doul of time in visiting various parts of Malaya in order to colloct material and information for his proposed Motionary of the Sconomic Products of the Peninsula (see Gardons 88/24). He did not have time to visit a few of the more outlying places, and it was part of his recommendation then he left singapore that I should go to Trongganu to collect similar information for him.

- It would appear most convenient for me to make the journey to Trangganu at an early date, and I have the honour to request your permission to leave Singapore either on the 29th instant or May 6th. It would be necessary to stay at L.Tronggamu at least 8 days, the carliest dates reaching Singapore on return being May 11th and 18th respectively.
- I do not know quite how much there will be to do when I get to Trangganu. It is possible that an additional week's stay would be necessary to do the work properly, and I must ask leave to decide the limits of my stay when I get there. There will further be scope for purely botomical collecting if time allows. In any case I wish to return to Singapore as soon as possible, as Mr. Henderson will be alone in charge here during my absence.
- I propose to take with me Hr. Mohamed Haniff, the 40 Field Assistant at Passing, who accompanied Mr. Burkill do his travels last year, and a plant collector.
- ampenses will be covered by the Gardens vote for Fravelling and Personal Allowances.

I have the honour to be SLI Your obedient servent. SD. R. E. HOLETOM.

Age phrootor of gardense

The Honourable, The Colonial Secretary, SINGAPORS.

Fair Copy signed by

15/4/25-

SIR. Proposes a visit lok. Trensgame forte to collect - botanical material.

1. He During last - par hu Burleill more spent a good deal of time in the thing & visiting various parts of Malangheren in order to Alled-Juiformation for his proposed Deliniary of the Ermonie Products Atte Tamibula / He

did not visit have time to visit a few of the more outlying places, and Hopping Hot

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it was part of his recommendation Jetter ogen Den he left Trijafne

that I Sould go to trangamin to collect importantion prhim.

2. A would appear most - amening. frime 16 make the jumes to Trenggame at an carl date, and

Thave the honour to reguestyour permission to visible leave

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Dates for retire befige reaching hay 11th

+ 1816 respectively.

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cs.

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3. Ido nor lum prite hom much there will be to do when I get 15 Tranggame. It is possible that an additional weeks stay honer be necessary to do the work properly, and I must are leave to decide the limits of my stay when I get their . I In any case I histo to return to Singapre as poon as provide, as hu tienderson will be alone. ni charge here during my abace. Over 500/8

4. Iproprie lotable with me his holanis Harrif, the Fill Ist. at Parais, who accompanied har Burball mbis havels last year, and a plant Wheelis hattaniff is due to south Significe a my return is order to at for her Best, Ast Carator, who is proceeding a leave a the right with hutardo, Feels Ami at - Suisapae, will go for tengry. 5. On Esperior de la Primate albranos. wet fortrædlig i Primak albranos. Since the second have The state of the s 1-1-4- 20- 20- 1-3 V. V. it was part - I'll a necessary with is the common and in

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Date	****	****					
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SUBJECT.

Sianiere Collections.

Connected Papers.

MINUTES.

No Minutes should be written on this page. A separate half-sheet to be used if required.

L'ainer plants, bil deut to time 11.8.22. a. marcan. In. Local name Oryza Catifolia Ton maplat Diospyror embrysplan, 666 Emilia Sonchifolia Clerodendion nevisfoliam 654 1 x ystelena esculentum Oxystelena esculentum 406 Thereta new folia 701 moschoma bolyotachyum 6950 notionia campesties 683 Denis uliginosa 65-2 Cajanus indians 699 733 Puevaria shaseoloides rianthema portuacastrum 1694 Cassia siamea 698 artanema seramoides Ton Lai 644 Orignaia cary ophyllocker Drugning caryophyllocides Orugnina gymnohiza Capproching 1688 Ton Kong Kang Origneira criopetala Beriofetala 672 Ton Kong Kang Caningtonia acutangula Ton Saka Combielung nee guadiangulare 719 Cambreham = Ridley 15469 -Sanaw Thai ermusha near citrina 434 Iummahia cf. bialata Evaria rufa Po Pali Gossypium barbaduse 659 Clarocar pur (not recorded as Scamere Dunbara near funa xD. Secretechinici 641 yelea peltata Hypserpas ? n. p. 676 F29/10

no, Local name. 669 685 In Krebun 675 654 Ton Nquah pamaw 664 680 655 710 In Lasers 00 mahrang 661 mapul 662 664 686 693 Ton Samuel 689 708 704 674 7 05 682 665-73212

Botanical name. Cherculina Turbethum Glochidion glomerulatum Carafoa obovata acanthus ebracteatus Justicia gendanisa Paskalum Scrobiculatum Khynchorpma auca Herea brasiliensis glochidion littorale Sonneratia acida Courhor carambola Garcinia dulus Thesperia papaluea Eugenia Jambolana Pariflora fosteda avisennia alla liter repens Scolopia lumanthera Groceana agalocha Somuratia alla mikania scandens Scoparia dules tagraca fragrans Carrolo Candolhama Hygraphila quadrivale is Paniain Engonina moreuna gigantas maira lagopo disdes Hopea odonates Jewum partilacartium

F22/11

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F22/12

- Pon Jome Ad. BANGKOK,
SIAM.

William March 3/8. 1922. R. Burkell leg. Director, The Betanie fardens, Sinjapore. Bear dir, I am wondering whether your Herbarun Shaff would determent Collections of Jeanere plants. In the past I have always sent to kew or derect to Professor trail, but They are

amaleur botaniste, in the country . Whilst I am writing you I should like to ask you about melrapane specios of m. deversigalia, which no doest occur in malaya as they do in a. Seam. The beaves are used us a substitute for opium layely with us in the Joeth, + I was combering whether you had come across the drug wohether you thought it is a some of deger. you may have noticed that 2 new alkalends have bee

found in it, of have
formised Professon Bayer
efuther supplies of the leaf
of more complete investigation.

Yours faith fully

A. Marean.

so slow as to make it empossible from a prestical front frient. It may be you have enough material for the purpose. Would you also describe new openies. mex of my collecting is in the Bayhor district, ort up. country when I am almost certain to get somethey new. Infact 1 got a new Radermachera en Bankok about a year oys. mrs. Smeth tells me you are delermining her flerns, & I should like to mention There is no chance of being unundated with collections from seam as This bruth Impelof use the only two

Poh yome Rd. 180 15 1 DayKok, Sian. October 61k. October 6th. 1923 Dear Mr. Burkell, a comple of determinations you were trink enough to give me: no. 681. your list dated 15th august 192d. iyolea peltala. The petato teepalo seem to be free. tothere any chance of it being a Stephania, therhaps I. hernandifolia? no. 676. Alea in your lest of 15.8.22. Typserpa. . hew of. my ro. 594 was determined by Kew as appears to be identical with no. 676. rewspecies will disappear. Should you have an opportunity I should be very grateful to hear from you on the matter, though no doubt Jon will be very busy after your return Yours very truly, A. Marean. 7-70 F22/14

FC PP 383 - mil her - sec No. of the Control of PS. when I sent you no. 676 -1 hed quite forgotten 1 had sent sq7 5 Ker, At received their determination after the same plant to two authorities, of course. or some the first of the sound and the depolation which were the set of Marian is a sulfrance of the same the mention of the state of the and the second s which will be the second of the second of the second



Pod Yome Roady
Bangkok, Siam.
Tuly 257h. 1923.

Dear Mr. Berkell, I was try pleased to receive your list of determination, dated Tune 16th. 1923. this very good of you to have taken the trouble to took them up at Kew. It is interesting to note that nos. 1000 (Helis tropan 8p.), 1004 (Vite 8p.) 4100 a (Phyllanthun ep.) are undereribed. To show that the flore of the paddy full destricts is still imperfectly known, which surprises me. I wonder if you are soing to describe them. Hos perhaps you would consider the Natural Hustory Society of Seam for the purpose : There must be some error in no. 998 tiens 8p. . ho 998 is described as Trichosanthes cucumerina in the same lest, & the seems 998 must be anseror. Perhape I gave you the wrong rumber, but I cannot trace it.

determined in your list, as Bruguiera.

fymnorhiza, approaching B. Criopetala.

F22/15

Do you think there is any chance of it being a hybria? I spent a logo time on it myself or could not determine it. I suppose a new, a new variety of fymnorhya would be of considerable interest, and always understood this places was so familiar. The mayore swamps are the only jungle we have near Bangkok. I ean send you the points I roliced whilet deceling their no 688 if it is of any interest by on. I have sot a new Bankinia from the South which Craib will execute describe. With renewed thanks, Vincerely yours AtMarean.

Ensonyen by your reports of the 3 above sep.

I took a trip yesterday to the district they
came from, but can hard a expect seein
ford fortune a executo time — at the came time
of year, also

Fair Copy signed by

To an can In:
Poh Yasu Road.
Haykek.

In ariswer typur tetter Manch gral efer, & Rich Il ma Le ponible to name blavel for you the this way. les you collect. collect tu hepli-ali- and munber: the Suplication of ferincen 1. Mus fander, and we Will try & returne Min haure within say his weeks Han count we will reduce the Specimens. the I for me leave week

Year difficulties may arise.

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From Whom J. of J.

Place S.

SUBJECT.

Suggest mustion That he may true the towns of the Russials during 1924 to Collect information for the Dietiman of the Bearings of the Russials of the Manual Products of the Maley Parismale

Connected Papers.

MINUTES.

1. Letter to CS. forwarder 2/1/24 2. Letter from OS. 24-17 24 No Minutes should be written on this page. A separate half-sheet to be used if required.

24th. December, 1924

REPORTING RETURN FROM TOUR.

Sir,

I have the honour to inform you that I returned to Singapore from Fenang, last night. (Gardens 88/24)

- 2. The Waterfall ardens are in good condition, and the affairs of them in order. The Committee for their Management met, and transacted pusiness as usual.
- 3. I paid a visit to the Hill top to inspect the Bel Retiro garden, and am in correspondence with the Hon's the Resident Councillor regarding it. He is not satisfied nor am I in regard to the gardening there; so that we shall recommend to you that the Assistant Curator in executive charge of the Waterfall Gardens be given more control. At present he advises only. You may expect to receive a communication, therefore, upon the gardens from Mr. Voules.

I have the honour to be, Sir,
Your obedient servent,

Director of Gardens, S.S.

The Honourable

the Colonial Secretary,
Singapore

has been proposed, that I might der his work, and he foir Ed there for a few days. I found him I have again a annihate amount of you the trustige from historie is Martin Mil Lin front Mightonia (154) Aleber of Singering friend Money & Sport of 150) Pay Eight State Land Der well a high the Topicing west the family aining him days were great in foreigness The Review Constitute request we a with way paid I have the this tope I advise his car langer to be been the little of the M. S. H. holy dans Than Alas; I was put and loud with action of moths, mital them in sek their angs a the there, hor his heady, un The Manuel Whomes where Later has aller aunt the accompany many true, hand feels sto. There of weeker dugs

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M. T.

It is requested that the following number be quoted in the reply to this letter.

No. 88/19 24.

Colonial Secretary's Office,

Singapore, 24 January, 1924.

SIR,

I AM directed by=the=Governor to transmit to you for your information a copy of the document noted below.

2. Your correspondence I/24 refers.

I have the honour to be,

Sir,

Your obedient Servant,

Colonial Secretary,
Straits Settlements.

To The Director of Gardens,
Straits Settlements,
SING APORE.

DATE.	DESCRIPTION OF DOCUMENT.

21st January, 1924.

Letter from the Under Secretary to Government, Federated Malay States, Kuala Lumpur.

Le Telok ausen I hand of & dye plants, used & Sur Kampungs, how your formertie non commercial way. Is had as him have by Man the lie formation, which uncant foriginate the hand had also the Kampungs. That her hand with with do that and also get what he can from bomother regarding their herbo less lay their herbo less that he the can from bomother regarding their herbo less that he was free apple from the brugest flow, though the him Lands print the friend has from the brugest flow, though hoor fruit.

A Tanjong hadion of was peed with land with the brugest, what afford we will a lettle information.

June in Perak seems Langely a month of scaries of flowers.

June in Perak seems Langely a month of scaries of flowers.

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Lancing. I also brought back, plants for Men fandus

and deed others of the hands of het Hanely & Plenancy.

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will reach Penary hot ay.

Hui day June the town Sanctioned in your

herd, completed have no or

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Liver the approach of human by so had small result.

Liver the approached 3. At Kerala Kangsan, Ro? R

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Dr. (miss) tujus

frmise of help love y

on the Superhor of W. Campbell of the apreachably and at Balic Jajah La Oblacia a considerable account y suprimation for an exceeding knowleyable druggest hause Ng an Chong, who while di pering Chineses hudein knows will that he can replanish his Stock breatly. At with titt continue I help use for which purpose W. Haviff I thought it will to take him at a cost of 1-2 cents each Sampler of all the drugs which he stocks, and While he that pennished about one half, he promises the Ohn hay later. For it her Samily both for to Batu Jajah latir. There boundes called in oct Batu lajah rupplied true a variet 4 heprimation and at Tapan the Same was the case. Tapah is the Centre hear I which Cerreti lived abrypist Sakais, and his hote the Sakai planthams y his book " my friends the savages", were prihed up there. To ottermine what the Manto are I have arranged that he Hairf I the Kindren of text Str. Taylor & lev. Spellerwindt. the must Marknewl, that lev. Nacif shall have be feel with bouch with there who have betieval dalings with the Sakais as for , and of decory his thitten, provided with weey lich resulté latio. I may misent here the lufermation that I have trad to common ture of action with Faller Ichevesta, minim any Perak In Sakais usav Termingth be blank lister.

2-1 January, 1924.

3 in G. 148/1924.

Sir,

your letter No. 88/24 dated the 14th January, 1924, and to inform you that all possible assistance will be rendered to Mr. Burkill, Director of Gardens, during his proposed tour through the pederated Malay States in order to collect information for the Dictionary of Economic Products of the Malay Peninsula.

I have the honour to be,

Sir,

Your obedient servant,

Significant States of States

Under Secretary to Government, Federated Malay States.

The Under Secretary, S.S. Singapore.

It is requested that the following number be quoted in the reply to this letter.

No. 1/24

Botanic Gardens, Singapore, STRAITS SETTLEMENTS.

2nd. January , 1924 .

SUGGESTS THAT HE MAY TOUR THROUGH THE TOWNS OF THE PENINSULA DURING THE YEAR IN ORDER TO COLLECT INFORMATION FOR THE DICTIONARY OF THE ECONOMIC PRODUCTS OF THE MALAY PENINSULA

Sir,

I have the honour to submit that I hope during this year to tour through the towns of the Peninsula in order to collect information for my Dictionary of our Economic Products, and to suggest that it would be a great service if help could be asked from District Offices outside the Settlements.

2. The request could embody this information. "It is intended to prepare officially a dictionary of the Economic products of the Malay Peninsula. With the purpose of rendering it as complete as possible, Mr. Burkill will tour through the country during 1924 enquiring all the towns for the more obscure products. He wishes to visit the shops or workshops of artisans who dye, tam, weave etc. and learning their materials to trace them to their origins: to get into touch with native drug collectors and to ascertain what they use: to visit markets and seek out unsual vegetables or other food promotes stuffs: etc. It will be understood that the search can be shortened by the kind direction of the District officers and Mr. Burkill will call on each officer as preliminary. It is asked that the officers will be so good as to collect together such such information within their own knowledge and from their staff of the places, houses and persons who should be visited by him. It is evident that the knowledge which Mr. Burkill seeks

must in many cases be paid for: and this can be done by purchase of goods, e.g. if a collection of drugs or of samples of
dyed cloth: by which means it is intended to avoid putting
artisans and others to trouble for which they get no recompense".

- 3. You will observe that it is the help of Governments of the Federated Malay States and the Unfederated States which is desired.
- 4. The proceedure which I propose is exactly that which I carried out, and I think with success, during my service under the Government of India.
- officers have any sure way of reaching him, as is desirable in a measure. They are for instance numerous vernacular names in Cerruti's account of the Sakais, which remain "nomina nuda": and though I expect to be able to do something with the help of the Conservator of Forests, help if possible from district offices would be valuable.

I have the honour to be,

Sir,

Your obedient Servant,

Director of Gardens

The Honourable the

Colonial Secretary

Singapore

Place

Date

SUBJECT.

Collection fra Savawake for Dr. Freuntley.

Connected Papers.

MINUTES.

Le Greinan, that we way in withing he Drewith a fast of lin Experience he 27.6.24

No Minutes should be written on this page. A separate half-sheet to be used if required.

2 in F.R.O. 241/23.

28-11-23.

Director of Gardens,

SINGAPORE.

I enclose hrewith a copy of the letter which I sent to Moulton concerning what I hoped to accomplish with the work of the collector, who is now here undergoing training.

F. W. Foxworthy

Forest Research Officer, F.M.S

1 in F.R.O. 241/23.

Office of Forest Research Officer, F.M.S

Kuala Lumpur 18th.October 1923.

Sir,

You have been so kind as to arrange for me to obtain the services of a plant collector in Sarawak and I am writing this formal letter to place on file my desires concerning his work for the present and something about the possible developments from this work.

Arrangements to be made with the collector .-I will pay the man you have selected \$30/- per menth and necessary expenses, and will supply paper, field note books, labels, and other material needed for his work. I estimate that the total expense to me will not be more than \$100/ per month, and I propose, in the first instance that the arrangement should continue for one year, if satisfactory to both parties. I should like to have him come over to the F.M.S. for one month's training with the Forest Department collectors. Ewould be convenient to have him here from the 10th. of November, and I would suggest that he leave Kuching by whatever boat will bring him here about that time. His pay will begin from the time he leaves Kuching, and I include herewith a postal money order for \$100/- so that his passage can be paid and he can have such advance as seems desirable.

Major J.C.Moulton, O.B.E., Kuching, Sarawak.

- 3. Collections desired. The things which I particularly want to get are the following.-
- that are found in flower or in fruit. A number of forms from the eastern and southern parts of the Malay Peninsula are evidently very closely related to S-rawak forms and, in some cases, Iwill be unable to identify them without comparison with Sarawak material. I am also gradually assembling material for a monograph of the group, which I hope #some day to finish. Anumber of duplicates and also a wood sample will be wanted with each number collected.
- (b) Commercial Timber Trees. All trees that are recognized as of commercial importance are of interest to me and I want flowering and fruiting material and wood specimens.
- (c) Other economic plants. Any plant which has now, or is likely to have in the near future, economic importance is of inter-st to me and should be collected.

 (d) Localitities for collecting.

I am finding in the Malay Peninsula, that it is very important to have collect one from all districts.

I would like for the collector to work in each of the districts of Sarawak. It will be possible to furnish him will a list of known names, and he can look for the same trees in each district visited. On a particular trip, he may find only a few of the things in flower or fruit, but he can locate particular trees for examination on subsequent visits and can do general collecting. It is proposed that his trips shall be directed only to the lowland forests. The altitudinal range will be determined by the place at which the Dipterocarps cease to occur.

4. Disposal of collections. - I propose to have the first set of material for study here. The first set of duplicates will be available for use in Sarawak. If some one can be found who will be willing to exercise a little supervision over the collector's work, this set can be taken out before the material is shipped to me. I have thought of asking Mead to exercise a little supervision over the field work of the collector, as Mead knows the forest conditions in Malay Peninsula and would be able to learn where and when special trees are flowering or fruiting. The selection of the specimens for the Sarawak collection might, I should think, be done at the Museum. The second set of duplicates will go to the Botanic Gardens at Singapore and I have thought of asking Burkill to help with the identifications and to see to the further distribution of sets. It is hopedthat therewill be a set for Kew, one for Buitenzorg, and one for Manila.

5. Future development of this work.

If this work goes on as I should like it to it will soon become too big for me to handle, and I will then suggest to your Government the desirability of taking it over, perhaps with outside contributions toward the expense. If the special collecting is well done, it would seem decidedly worth while to get general collections at the same time.

I have de

SD. F.W.FOXWORTHY
Forest Research Officer,
F.M.S

Collection (Jankon B POTANICA CARRETT P& O.S.N.CO. RACON TO PROPERTY S.S. Vear Burkillin was received just before I sailed.

I did not think that Mehamma Nur reached a height of as much as 2,000 feet at any time on the trip, Dungny Sitony is given on our mafis as a little less than 3,000 feet in height, and it is doubtful if Nun reached the moin mountain at all. t rom what he told me, I should think it very doubtfol if he got much, if any, above 1,000 feet in the Titony neighbourhood, It would not surprise me for plants usually found at a higher elevation to come rather low there, It is quite a longe mountain mask, with a let of steep and narrow ridger, and, (p.t.o.)

probably, a good deal of the same kind of exposure is found on the tops of steep ridges as on This boat is not snowded and the food is good the promises to be a rather comfortable trip, We expect to get into Colombo on May I and London May 23 your good wishes and with best regards, fan, Sincerely yours, F. W. foxworthy

15th. April, 1924

My dear Tansley,

anuary 9th., by the enclosed note. It is a very compressed account of my position here, and I have to acknowledge Holttum's assistance in preparing the statistics of the lower plants. At the same time the note embodies the views which direct my policy. I should like to know what you meditate doing with it, as parts of it would be serviceable to me in print should I thereby reach our rulers here. I am in toubh at last with more sympathetic people than at any time during the last difficult ten years.

I have not made in the note a special point of one matter interesting me, the matter on which I wrote to Brooks last year. It is the introduction into the teaching of systematic botany of some economic information. If for instance Coffee were put before the student learning Rubiaceae, he would lose nothing. It represent the order far better than entas or other genera likely to be used as being convenient. And if a little if the history of cultivated plants were poured into the ears of the students the human interest would dissure the sticking of some of it.

Sincerely yours, and with best wishes for your success,

15th. Aprill 1924

My dear Chipp,

The enclosed is a carbon copy of a note the I have sent to tankley on a request from him that you and he had joined forces to discuss a survey of the Empire.

You will find that I have written to him with it.

My note will probably be more understandable to you the to him. I have asked him what he is goinf to do with it, as parts of it might be useful propaganda here.

With the departure of James, the norizon is clearing. Hose and "axwell are talking in friendly terms of the transfer of enderson forthwith to my department; and we are all getting ready to settle the question of the ultimate removal of the centre of these Department to K.-L., when the Public Tardens there will become Botanic Tardens. I expect that some such year as 1826 will see the fact accomplished

I have asked Hose to interest himself in the matter of my successor. But new to his work he must be rather everwhelmed with matters demanding attention at present.

My wife is much better. She has had an X-ray examination and the cause of her trouble is clear. She will have to go slow: no tennis; but the doctors say that it is not necessary for her to go home. Our best salaams

Sincerely yours

The largest purpose at the present time of Systematic Botany is the creation of a common language whereby one man may communicate with another upon the subject of plants: and for this reason Systematic Botany demands attention before any other branch of the Weience, and will be spoken of in this note first.

In www course of publication by the Governments of the Straits Settlements and the "ederated Malay States jointly time is a Phanerogamic Flora of the "alay feninsula from the 7th degree north southwards to Singapore. prepared by Mr. Ridley in London and has Tot putting the knowledge that Europe has accumulated into the hands of the botanist in the eninsula. It is in fact a devolutionary movement, a part of the course of action by which the two Governments named are taking over the working out of the scientific position of the knimula.

In this Flora Mr. Ridley is expected to describe 9000 Phanerogams. Recent exploration suggests that the Poninsula nolds 15-20 per cent more which have not yet been described, and therefore in its area of about 52000 squire miles, there are found 10350 to 10300 species. For a moment a few comparisons may be instituted.

It appears that 9000 is approximately the number which in a catalyne now appearing a four will be enumerated by Mr. E.D.Merrille and known from the Paulippone islands, the area of which is twice that of the be coundresas probable Peninsula. Z the density of species in the two is similar, the Peninsula appears by much the better worked. But Java. with an area very nearly equal to that of the Peninsula, and certainly better worked, carries only 5000 Phanemogens: but then the vegetation of the low country of Java has suffered such enormous interference from man. Borneo with an area of 30,000 square miles is known to carry 5000 Pagnerogams; but it is certainly not more than 60 per cent worked. The rest of Malaysia is less, one may say little,

of Rent Pteridophytes about 540 are known to occur in the malay Peninsula; and this figure represents perhaps so per cent of the total.

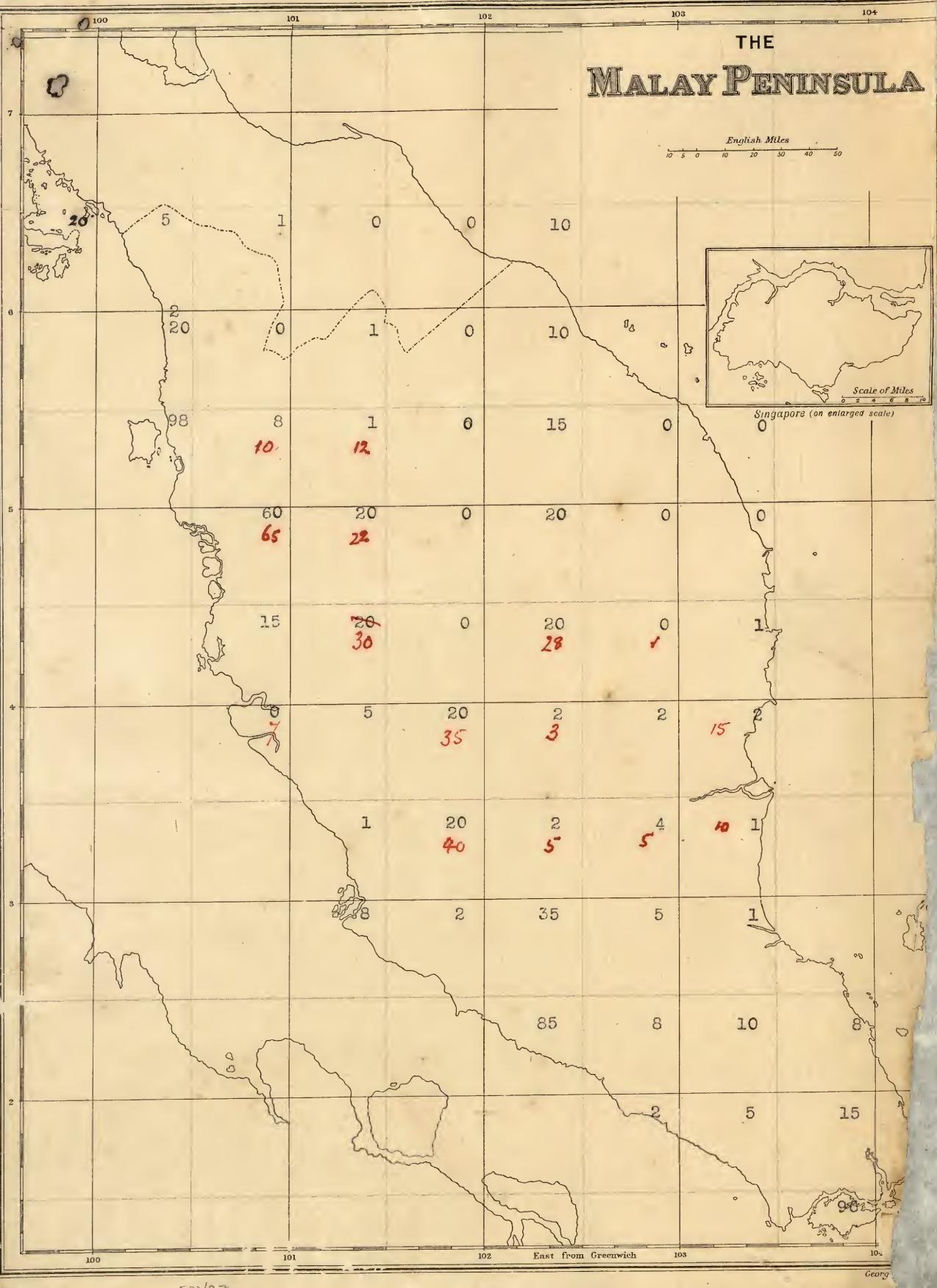
Of Bryophytes, a Moss list will shortly be published by Mr. H.N.Dixon, and will run to about 300 species. As the Moss-flore of Java is known to contain about 920 species, much certainly remains to be added to the Malayan list. Liverworts are very little known.

Cryptogens lower on the scale than these certainly do not number less than the Phanerogens, and may reasonably be estimated as more than twice as many. In Major Chipp's list of the known Fungi and MANNAMAGENEROUS 350 are enumerated, and subsequent additions increase the number to 900. It is not possible to estimate what percentage of the whole fungal flora this may be. Of those known two things are Basidiomycetes, and over 300 belong to the Polyporaceae. Physicomycetes on the other hand have scarcely been touched.

of the different perts of the eninsula: the figures on it are estimates of the probable total flora (Phanerogans only) which for each square have been collected, in Herbaria of removed in print. It is clearly seen upon the Map are better the three Settlements are first. Esen square on the

en in of about 1200 squens miles

containing KNNWNX square Penang a probable flora of 2000 nas 93 % known 2000 96 Singapore 2000 35 alaces. Taiping and Gunong Bubo 60 3000 25 the south and of the Main chain 2500 Gunong Tanan 20 -4000 20 4000 Gunong Kerbau and the Ipon valley the Main range over, and with Kampar 3500 20 Kuala Kubu 3500 20 do Kuala Lumpur 3500 20 do do 20 thecountry south of Guning Tanan 2500 20 southern Aedan with Aedan peak 3000 2500 20 Lankawi islands 15 thecountry north of Gunong Tenan 3000 15 2500 south-central Johor 15 Lowland erek with the Dindings 2000



F27/37.

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mory Map, Price 2 cents.

are 40 further squares wherein carrying figures 10 per cent and less.

It is not intended to suggest that work should forthwith be directed to completing the knowledge of each square; but to indicate diagrammatically where knowledge is scanty. These same figures show that the fascination of the mountains has led to their gotting attention next after Straits Settlements: By the labours of the missionary Scortechini, of Sir 'corge King's collector Kunstler, and of Wray, an officer of the erak Museum, our knowledge of the Taiping mills is not meagre. An early paper will review it. Another early papper will draw into one view what is known of the vegetation of the uppermost twothousand feet of Guning Tanan, the highest of the mountains the Peninsula: but unfortaunately the collections brought thence are somewhat & the nature of selections.

By knowledge such as the above map represents, official field collecting is directed.

material collected passes into the Singapore Herbarium, and much again passes out by way of exchange with institutions able and willing to supply what the Singapore Herbarium needs, i.e. comparable material from adjoining countries material nelping in the maintenance of a common nomencla-about 3000 specimens.

The Singapore "exbarium is part and parcel of the Botanic Gardens of the Settlement, not by accident, but uterwoon by NAKHWAXXX the nature of the work in both.

Bottenic Gardens of the British colonial type are several sided, but mainly educational. An educational KNNXXX institution needs to be in a dutre of population, and also popular: and to touch the Ruman interest an exonomic element is appropriate XXENXXXXX the lesson in plants that they are intended to give

F22/38

Public in the Garden, and the arden furnishes the interpretation to many a puzzle arising in the Herbarium. It
seems to the writer XXMMXX beyond dispute that Herbaria and
Gardens should always be in the closest contact, and under
the same administration, an observation which beings the housen

ritish Botanic Gardens are several sided; but mainly educational. As educational institutions, their place is in towns, and to be effective they must be popular. The more they touch the numan interest, the more they educate: and reson an economic element is appropriate to them. Maurisy Gardens topuness afo It is clear then that the Colonial betanist XXX needs' broad outlook the systematic training, a / XEXHXXX towards economic work, How needs, of course, that knowledge of the physical requirements of plants by wain they can understand the way to make them flourish. On the other hand there are Colonial Agricultural Botanists whose services are devoted to Phyto-pathology and the improvement of crops, and these whose training in last courses should be in all the laboratory technique Petri disnes and culture-media, or in genetics. Clearly there is a cleavage nere; and Governments are likely to continue, as they do at present, to recognise the line, so that it will be possible for institutes which train expent botanists to plan two courses, the one comprising studies for "ardens service, and the other comprising studies for Agricultural service.

In the Straits Settlements there are two ardens under one directorate, and it is contemplated to add a third in in the sederated Malay States. Surely all will be under one head, with a central herbarium.

It is clear that in the "alay oninsula the coming systematic botanist must also be an ecologist.

Towards ecology we have so far done little: we have ac-

quired in the Forest service, some preliminary skill in maintaining mangrove forests productive, that is to say in reconstructing the climer of the formation out of a scre-state induced by working; and we have one count of secondary forest at fifty years of age. The grand virgin forest of the eninsula is yet unstudied; and seeing that revenue is involved in its maintenance. the Government's will recognise clearly that the study of it is a State affair. It is recommended that in future the candidates for gardens service should have had ecological training.

Malaysia carries a wonderful flora. It is the most intense Rain-forest flore of the Old World, and therefore to the Phytogeographer of absorbing interest. "ow it evolved is a much debated and unsettled problem, interesting the geographer, the geologist, XKN the 200logist and the botanist alake. In many WHYN directions of recent years much has been done towards it's Khinkank explanation, and the botanist is not XKKXXXXXXX backward. The biology of the whenting worlding these forests is also absorbing) the inter-relations of plants and animals, the dominance of ants in the censequences, so unlike enything possible of in the praing climale-For serlutionials experience in Europe, the rapid growth water opens the Lecroia

current ideas of the eveolution. These and numerous like fines adademic to be recognised as ligitimate enarges on state revenues; but a colonial botanist equipped for sheir study find employment for his mind in all the leisure that his work permits, and will not well

training leh him incline toward work at them.

Grantchester. Cambridge 9 Jan. 1424.

130. ry

my dear BurkerU,

Corprence next July. We are having a day to treate to a consideration of Bortonical Invery of deferent parts of the Empire.

Stopp and Choppe (the Americant Deretter at them) wout to put from a scheme for publishing in summery of what has been done and intend enjection a unit of uniform shape. The next of having pick officers and the take so that they may be able to understand the rightering of the regions to when they we will also be discussed. We want if principle to fine the Conference done kind of nothing grates has been done. We want if from the vigor the from the Conference done kind of nothing grates has been done. We want if from the vigor the from the from the form the form the form of the summer of the side of the summer of

Hunds he very weeped if you could let me have a short turning openhet has been done in the healtry region. I support the pllowing heads. (1) Surveys of every hind. flows he, ecological (vegetheint) or apprendent that have chearly been caused art. (2) which must work dring in the fature. (3) the hand of having, but filted to make much much much work.

In default of any thing like a complete senies of papers. I am
hyping to get information of the out from the larger regions, to as
to present some kind of formulary to the Conference; and I thank
be very grateful if you can help. Of course nothing more than
an nettine is required.

with best surgeon when i knowleyand boya a Holthum.

Grin very menty.
AG Tankley.

F20/41

Fair Copy signed by

F.G. Streets

Oran SIR,

The box of plants from finning the and the Allming are an attermination The Davella may be a new free this Kneet to Stricker hanceston this.

But have the March for your kindress

My had Marche for your Kindress

8 perineus from top of g. Bube, 0 K. Kaugsav, Peratz. All 10-15 Ht. high, except one plant. from E. A. Stronts, Asst. Conservator of Frests, Knala Kangsar.

coll 7.12.24. Abliant.

coll E.A. Stone & Gunny Buba

Weinmannia Blumei.

Leptospermum flavescens

Tredinilla Clarkei

Vaccinium Cancanium Diphyeosia microphylla

Rhododendron malayanum Sympl adrifila

Dagydium Beccarii

Dianello sp.

MOTATIC CLAMPEN.

1136 M. HIVAN

12th December, 1924, Kuala Kangsar.

I.F. Burkhill Esq.

Director of Gardens, Straits Settlements, Singapore.

Dear Mr Burkhill,

With regard to a parcel of specimens I sent to you the other day (from Gunong Bubu), Whiteh Mr Bazel has asked me to note, what I could, of the flora seen at the summit. I must apologise for the crudeness of my remarks, not being an efficient botanist myself. The summit of Gunong Bubu is 5434 feet high. We climbed up one of the Eastern ridges of Gunong Bubu. The ridge was fairly steep. & for the last 500 feet it was steep. High forest continued to within approximately 500 - 800 feet of the top, but the larger trees had thinned out at about 900 feet from the top. A species of Oak continued to very near the end of the high forest. The growth gradually became more thicket-like, with small trees 10 to 15 feet high & a dense undergrowth, through which it was difficult to pass. This was the condition at the summit, and the change was gradual for the last 500 feet. The summit was about an acre in extent; the other peak, about i mile away, was not climbed. The specimens sent were taken from the bushes at the top, & one white flower from an orchid I think. Pitcher plants were very common. The undergrowth was chiefly composed of Resam with some Mattonia, & a thick grass-like plant with a stout stem formed of the adhering leaf-bases. Mosses began to appear at 500 feet from the top & because thicker towards the top.

The summit of Gunong Bubu is anadually wreathed in clouds.

The clearest months of the year are said to February & March.

Yours sincerely,

Et 8houts.

From Whom		
Place		•
Date		
* 4	SUBJECT.	Processed 23-2:21
1-ace	nespany Dr. Timewriting for Collecting	

Connected Papers.

MINUTES.

Dear Vill How Many days. ne a alborrance for travelly to buchan + took. (2 days? met in the solf of the solf of

at w

22nd, July, 1921

FOR PERMISSION TO SEED A PLANT COLLECTOR TO SURAFRA

Sir,

Informing you that Dr. Forwerthy, Forest Research Officer, Augla Lumpur, is proceeding to Sumetra for a ferthmight's holiday, I have the behood to sek that I may be allowed to send a plant collector with him that he may collect plants for me. The cost will be small and can be not from by vate. The gain will be great, inasmuch he no one could better direct the collector than Dr. Faxworthy.

You will understand that the material collected has a considerable comparative value for the study of our forest trees, and that the change of getting the guidance of such as Dr. Foxworthy is unusually fevour-sole.

I have the honour to be, Sir, Your obstient servert,

try

birector of "ardens, 5.8.

The Renourable this Colonial Secretary Singapore.

No Minutes should be written on this page. A separate half-sheet to be used if required.